

U.S. Patent Application Serial No. 10/520,280
Amendment filed July 12, 2007
Reply to OA dated March 12, 2007

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Currently Amended): A disk playback device capable of reproducing signals from a disk by irradiating the disk with a laser beam from an optical head, the disk playback device comprising a laser drive circuit capable of feeding a drive signal to the optical head and adjusting a power of the laser beam irradiated by the optical head and a control circuit for controlling operation of the laser drive circuit, wherein the control circuit comprises reproduction power optimizing means for repeatedly optimizing the power of the laser beam for signal reproduction, and the reproduction power optimizing means comprises:

evaluation data detecting means for detecting evaluation data representing quality of a signal reproduction state;

retrieving means for retrieving one boundary value of two boundary values of a reproduction power wherein the evaluation data is a prescribed value or in the vicinity of the prescribed value; and

optimum reproduction power calculating means for calculating an optimum reproduction power based on the one boundary value retrieved,

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wherein the retrieving means retrieves a new boundary value based solely on a boundary value obtained by a previous optimizing processing and not a current power reproduction level.

Claim 2. (Original): A disk playback device according to claim 1, wherein the retrieving means retrieves a lower boundary value having a smaller value from the two boundary values, and the optimum reproduction power calculating means adds a predetermined value to the lower boundary value to thereby determine the optimum reproduction power.

Claim 3. (Original): A disk playback device according to claim 1 or 2, wherein the evaluation data is a frequency of occurrence of bit errors included in a reproduced signal.

Claim 4. (Original): A disk playback device according to any one of claims 1 to 3, wherein the disk playback device comprises temperature detecting means for detecting a temperature of the disk, and the reproduction power optimizing means optimizes the reproduction power whenever the temperature of the disk varies by a predetermined temperature.